



Applicant	Hiroshi Takatori et al.	<u>SUPPLEMENTAL</u> <u>PRELIMINARY</u> <u>AMENDMENT</u>
Serial No.	10/776,036	
Filing Date	February 10, 2004	
Group Art Unit	2631	
Examiner Name	Not Assigned	
Confirmation No.	8412	
Attorney Docket No.	100.568USR2	
Title: ADAPTIVE TRANSMITTER FOR DIGITAL TRANSMISSION		

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22312-1450

Prior to initial review, please add the following new claims:

IN THE CLAIMS

14. A method for reducing crosstalk in a system having a first transceiver at a first site coupled to a second transceiver at a second site via at least one communication medium, the method comprising:

- setting a transmission power level of the first transceiver to a nominal value;
- transmitting a first signal from the first transceiver;
- receiving the first signal at the second transceiver;
- determining at least one characteristic of the first signal received at the second transceiver, wherein the at least one characteristic of the first signal received at the second transceiver is related to a received power level of the first signal received at the second transceiver; and
- controlling the transmission power level of the first transceiver based on information related to the at least one characteristic of the first signal received at the second transceiver.

15. The method of claim 14, further comprising:

transmitting a second signal from the second transceiver to the first transceiver,
the second signal including the information related to the at least one characteristic of the
first signal received at the second transceiver; and

receiving the second signal at the first transceiver.

16. The method of claim 15, wherein controlling the transmission power level of the
first transceiver based on the information related to the at least one characteristic of the
first signal received at the second transceiver includes controlling the transmission power
level of the first transceiver based on the second signal received at the first transceiver.

17. The method of claim 14, wherein the information related to the at least one
characteristic of the first signal received at the second transceiver includes information
indicative of the received power level of the first signal received at the second
transceiver.

18. The method of claim 17, wherein controlling the transmission power level of the
first transceiver based on the information related to the at least one characteristic of the
first signal received at the second transceiver includes reducing the transmission power
level of the first transceiver when the information related to the at least one characteristic
of the first signal received at the second transceiver indicates that the received power
level is greater than a predetermined level.

19. The method of claim 18, wherein the predetermined level is associated with a
predetermined signal-to-noise ratio.

20. The method of claim 18, wherein the predetermined level is associated with a predetermined cable line loss value.

21. The method of claim 14, wherein the information related to the at least one characteristic of the first signal received at the second transceiver includes information indicating that the transmission power level of the first transceiver should be changed.

22. The method of claim 21, wherein the information related to the at least one characteristic of the first signal received at the second transceiver includes information indicating that the transmission power level of the first transceiver should be reduced.

23. The method of claim 22, wherein controlling the transmission power level of the first transceiver based the information related to the at least one characteristic of the first signal received at the second transceiver includes reducing the transmission power level of the first transceiver when the information related to the at least one characteristic of the first signal received at the second transceiver includes information indicating that the transmission power level of the first transceiver should be reduced.

24. The method of claim 21, wherein the information related to the at least one characteristic of the first signal received at the second transceiver includes information indicating that the transmission power level of the first transceiver should be increased.

25. The method of claim 24, wherein controlling the transmission power level of the first transceiver based on the information related to the at least one characteristic of the first signal received at the second transceiver includes increasing the transmission power level of the first transceiver when the information related to the at least one characteristic

of the first signal received at the second transceiver includes information indicating that the transmission power level of the first transceiver should be increased.

26. The method of claim 14, wherein the communication medium includes at least one twisted-pair telephone line.

27. The method of claim 26, wherein the at least one twisted-pair telephone line includes a digital subscriber line.

28. The method of claim 27, wherein the digital subscriber line includes an HDSL line.

29. The method of claim 28, wherein the HDSL line includes an HDSL2 line.

30. The method of claim 14, wherein the first transceiver is located in a central office.

31. The method of claim 14, wherein the second transceiver is located at a remote site.

32. A method for reducing crosstalk in a system having a first transceiver at a first site coupled to a second transceiver at a second site via at least one communication medium, the method comprising:

_____ setting a transmission power level of the first transceiver to a nominal value;

_____ transmitting a first signal from the first transceiver on the at least one communication medium; and

controlling the transmission power level of the first transceiver based on information related to at least one characteristic of the first signal as received at the second transceiver, wherein the at least one characteristic is related to a received power level of the first signal as received at the second transceiver.

33. The method of claim 32, further comprising receiving at the first transceiver a second signal transmitted by the second transceiver, the second signal including the information related to the at least one characteristic of the first signal as received at the second transceiver.

34. The method of claim 33, wherein controlling the transmission power level of the first transceiver based on the information related to at least one characteristic of the first signal as received at the second transceiver includes controlling the transmission power level of the first transceiver based on the second signal received at the first transceiver.

35. The method of claim 32, wherein the information related to the at least one characteristic of the first signal as received at the second transceiver includes information indicative of the received power level of the first signal as received at the second transceiver.

36. The method of claim 35, wherein controlling the transmission power level of the first transceiver based the information related to the at least one characteristic of the first signal as received at the second transceiver includes reducing the transmission power level of the first transceiver when the information related to the at least one characteristic of the first signal as received at the second transceiver indicates that the received power level is greater than a predetermined level.

37. The method of claim 36, wherein the predetermined level is associated with a predetermined signal-to-noise ratio.

38. The method of claim 36, wherein the predetermined level is associated with a predetermined cable line loss value.

39. The method of claim 32, wherein the information related to the at least one characteristic of the first signal as received at the second transceiver includes information indicating that the transmission power level of the first transceiver should be changed.

40. The method of claim 39, wherein the information related to the at least one characteristic of the first signal as received at the second transceiver includes information indicating that the transmission power level of the first transceiver should be reduced.

41. The method of claim 40, wherein controlling the transmission power level of the first transceiver based on the information related to the at least one characteristic of the first signal as received at the second transceiver includes reducing the transmission power level of the first transceiver when the information related to the at least one characteristic of the first signal as received at the second transceiver includes information indicating that the transmission power level of the first transceiver should be reduced.

42. The method of claim 39, wherein the information related to the at least one characteristic of the first signal as received at the second transceiver includes information indicating that the transmission power level of the first transceiver should be increased.

43. The method of claim 42, wherein controlling the transmission power level of the first transceiver based on the information related to the at least one characteristic of the first signal as received at the second transceiver includes increasing the transmission power level of the first transceiver when the information related to the at least one characteristic of the first signal as received at the second transceiver includes information indicating that the transmission power level of the first transceiver should be increased.

44. The method of claim 32, wherein the communication medium includes at least one twisted-pair telephone line.

45. The method of claim 44, wherein the at least one twisted-pair telephone line includes a digital subscriber line.

46. The method of claim 45, wherein the digital subscriber line includes an HDSL line.

47. The method of claim 46, wherein the HDSL line includes an HDSL2 line.

48. The method of claim 32, wherein the first transceiver is located in a central office.

49. The method of claim 32, wherein the second transceiver is located at a remote site.

50. A transceiver for transmitting and receiving signals on a communication medium, the transceiver comprising:

_____ a transmitter that transmits a first signal;
_____ an interface adapted to couple the transceiver to the communication medium; and
_____ wherein the transmission power level of the transmitter is controlled based on
information related to at least one characteristic of the first signal as received at a receiver
coupled to the communication medium, wherein the at least one characteristic is related
to a received power level of the first signal as received at the receiver.

51. The transceiver of claim 50, further comprising a controller that controls the
transmission power level of the transmitter based on information related to the at least
one characteristic of the first signal as received at the receiver.

52. The transceiver of claim 51, wherein:
_____ the interface outputs a second signal received from the communication medium;
and
_____ the controller controls the transmission power level of the first transceiver based
on the second signal received at the first transceiver; and
_____ the second signal includes the information related to the at least one characteristic
of the first signal as received at the receiver.

53. The transceiver of claim 52, wherein the receiver is a part of second transceiver
coupled to the communication medium and the second transceiver transmits the second
signal on the communication medium.

54. The transceiver of claim 50, wherein the communication medium includes at least
one twisted-pair telephone line.

55. The transceiver of claim 54, wherein the at least one twisted-pair telephone line includes a digital subscribe line.

56. The transceiver of claim 55, wherein the digital subscriber line includes an HDSL line.

57. The transceiver of claim 56, wherein the HDSL line includes an HDSL2 line.

58. The transceiver of claim 50, wherein the transceiver is located at a central office.

59. The transceiver of claim 50, wherein the transceiver is located at a remote site.

60. The transceiver of claim 50, wherein the interface includes a hybrid circuit.

61. The transceiver of claim 50, wherein the transmission power level of the transmitter is reduced when the information related to the at least one characteristic of the first signal as received at the receiver indicates that the received power level is greater than a predetermined level.

62. The transceiver of claim 61, wherein the predetermined level is associated with a predetermined signal-to-noise ratio.

63. A first transceiver for transmitting and receiving signals on a communication medium, the first transceiver comprising:

an interface adapted to couple the first transceiver to the communication medium;
and

a first receiver that receives a first signal from the communication medium,
wherein the first signal is transmitted by a second transceiver coupled to the
communication medium; and

a first transmitter that transmits a second signal that includes a transmitter that
transmits a second signal to the second transceiver in order to control the transmission
power level of the second transceiver, the second signal including information related to
at least one characteristic of the first signal received as received at the first receiver,
wherein the at least one characteristic is related to a received power level of the first
signal as received at the first receiver.

64. The first transceiver of claim 63, further comprising a controller determines the at
least on characteristic of the first signal as received at the first receiver.

65. The first transceiver of claim 63, wherein the communication medium includes at
least one twisted-pair telephone line.

66. The first transceiver of claim 65, wherein the at least one twisted-pair telephone
line includes a digital subscribe line.

67. The first transceiver of claim 66, wherein the digital subscriber line includes an
HDSL line.

68. The first transceiver of claim 67, wherein the HDSL line includes an HDSL2 line.

69. The first transceiver of claim 63, wherein the first transceiver is located at a central office.

70. The first transceiver of claim 63, wherein the first transceiver is located at a remote site.

71. The first transceiver of claim 63, wherein the interface includes a hybrid circuit.

72. The first transceiver of claim 71, wherein the information related to the at least one characteristic of the first signal received at the first receiver includes information indicating that the transmission power level of the second transceiver should be changed.

73. The first transceiver of claim 72, wherein the information related to the at least one characteristic of the first signal as received at the first receiver includes information indicating that the transmission power level of the second transceiver should be reduced.

74. The first transceiver of claim 73, wherein the information related to the at least one characteristic of the first signal as received at the first receiver includes information indicating that the transmission power level of the second transceiver should be reduced when the information related to the at least one characteristic of the first signal as received at the first receiver indicates that the received power level is greater than a predetermined level.

75. The first transceiver of claim 74, wherein the predetermined level is associated with a predetermined signal-to-noise ratio.